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NASA Procedural Requirements

COMPLIANCE IS MANDATORY

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Request Notification of Change (NASA Only)

Subject: NASA Research and Technology Program and Project Management Requirements

Responsible Office: Office of the Chief Engineer

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Appendix I. R&T Portfolio Project Plan Template

The MDAA or MSOD may authorize use of an alternative format with compatible content.

I.1 R&T Portfolio Project Plan Title Page

R&T Portfolio Project Plan

(Provide a title for the R&T Portfolio Project and designate a short title parenthesis, if appropriate.)

It is the responsibility of each of the signing parties to notify the other if the conditions cannot be met and to initiate the timely renegotiations of the terms of the contract.

R&T Portfolio Project Lead

Center Director(s) or designee (if applicable)

Figure I-1 R&T Portfolio Project Plan Title Page

I.2 R&T Portfolio Project Plan Template

R&T PORTFOLIO PROJECT PLAN
(R&T PORTFOLIO PROJECT TITLE)

1.0 Objectives

State the area of specialty of the R&T Portfolio Project. State the specific project objectives and their relationship to the program objectives and goals. State the project's relevance to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan. Identify the main customers/beneficiaries and stakeholders of the R&T Portfolio Project.

2.0 Technical Approach

Present a technical description of the R&T Portfolio Project. This includes R&T, facilities, flight plans, operations and logistics concepts, and planned results analysis and reporting. Document any analysis to assess related research activities in other NASA programs, other Government agencies, and the commercial sector to minimize duplication of effort.

3.0 Performance

Document the R&T Portfolio Project requirements/objectives and technical success criteria in an objective, quantifiable, and measurable form. The R&T Portfolio Project Lead is required to document the flow down of high-level objectives and requirements to the R&T Portfolio Project. This section should indicate if a greater emphasis is necessary on maintaining technical objectives, cost, or schedule. R&T Portfolio Project success criteria such as KPPs, milestones, outcomes, or other accompanying performance indicators should be expressed in objective, quantifiable, and measurable form.

4.0 Management Approach

Identify the R&T Portfolio Project Lead. Describe the project management structure consistent with the R&T Portfolio Project WBS, including organization and responsibilities, its integration into the program management structure, and NASA Center(s) participation. Include clear lines of authority and reporting; illustrate the organization graphically. Describe how the project interacts with applicable NASA Center(s). Identify all significant interfaces with other contributing organizations. Describe the process for problem reporting and subsequent decision making, clearly describing the roles and responsibilities of all organizations. Identify specific management tools to support management in planning and controlling the project. Describe any use of special boards and committees.

Define management responsibilities for developing, concurring, and approving principal documents related to the R&T Portfolio Project. Define the selection process for awarding R&T, including the Selection Official. Document strategy for closure of contracts, archival of data, and disposition of residual property associated with the R&T Portfolio Project when the project ends.

5.0 Resource Requirements

a. Funding Requirements: Briefly describe the budget and acquisition approach to be applied to the R&T Portfolio Project. Identify an integrated budget typically for three or five years, including appropriate WBS elements (see Appendix K) consistent with available R&T program resources. The respective roles, responsibilities, and relationships between the Government and its contractors, vendors, and/or partners are addressed, including a description of integration and surveillance responsibilities.

All elements in full-cost are to be included for each participating NASA Center. Identify yearly NOA full-cost estimates for system development and operations, facility construction, institutional support (including safety and mission assurance), and management (if applicable). Address civil service workforce levels. An R&T Portfolio Project work breakdown structure (WBS) will be defined accompanied by a WBS dictionary (see Appendix K). The WBS should be defined to the level required to identify issues associated with technical progress and resource utilization in a timely manner.

b. Institutional Requirements: Present the infrastructure requirements (use or development of real property/facilities, aircraft, personal property, information technology) for the portion of the R&T Portfolio Project covered by this plan (usually no more than five years). The business case includes full LCC (including operations, sustainment, and disposal); benefit estimates; alternative and sensitivity analyses; and risk assessment for new institutional requirements (if applicable). Identify means of meeting infrastructure requirements through synergy with other programs and projects, thus avoiding costly duplication of support facilities and capabilities. Identify any necessary upgrades or new developments, including those needed for environmental compliance. Present the workforce requirements. Include full-cost civil service workforce requirements on the providing organizations for the prior (e.g., actuals), current, and remaining years. If use of NASA aircraft is planned (piloted or unmanned aerial vehicles), address here or address in a separate aircraft utilization plan the projected ground and flight utilization, modification requirements, planned deployments, aerobatics requirements, estimated costs, and other applicable requirements.

c. Environmental Management Requirements: Describe any activities specific to the R&T Portfolio Project to be conducted with support from the cognizant Environmental Management Office (EMO) to comply with NPR 8580.1, Implementing the National Environmental Policy Act and Executive Order 12114.

d. Acquisition Strategy: Define a process for determining openly competed, internally competed, and directed investments. Define a process for the solicitation, evaluation, and selection of proposals (including identifying Selection Official(s)). Establish evaluation criteria, including considerations of technical merit, relevance to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan, and cost realism. If applicable, the R&T Portfolio Project Plan should incorporate by reference appropriate sections of standard R&T process documents, including the Guidebook for Proposers to NASA Research Announcements (<http://www.hq.nasa.gov/office/procurement/nraguidebook>) and any MD or MSO omnibus NASA Research Announcements (e.g., ROSES or ROA).

6.0 Schedule

Document the R&T Portfolio Project's Integrated Master Schedule for all major events, independent reviews, and other activities for the period covered by this plan (usually no more than five years). Include approval dates for

principal project documentation, life-cycle transitions, major reviews, program-controlled milestones, and significant contract milestones.

7.0 Work Breakdown Structure

An R&T Portfolio Project work breakdown structure (WBS) (see Appendix K) will be defined accompanied by a WBS dictionary. The WBS should be defined to the level required to identify issues associated with technical progress and resource utilization in a timely manner. The WBS level should be consistent with effective tracking of major milestones and earned value management reporting.

8.0 Data and Knowledge Management and Distribution

Data management planning is provided as either a section of the Program Plan, Cross-Program Research Plan, or as a separate document (if applicable). It should address the data or knowledge being developed or captured by the R&T Portfolio Project and define plans for data rights and services. The plan should demonstrate close interaction with the application community, and provide an exit strategy following technology or knowledge transfer. In addition, it should explain how the project will ensure identification, control, and disposition of project records in accordance with NPD 1440.6, NASA Records Management, and NPR 1441.1, Records Retention Schedules. The plan should document how the results of R&T efforts will be disseminated, and it should also document if there are restrictions that limit or prevent the ability to disseminate data in accordance with NPR 2200.2, Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information.

9.0 Risk Management

Summarize the risk management approach to be used for the R&T Portfolio Project, including appropriate actions to mitigate risk and R&T Portfolio Project de-scope plans. Risk mitigation should be balanced with the need to conduct challenging research that will realize significant gains. If required, list any project elements that will develop their own stand alone risk and safety plans (see section 5.2.3.9, 5.2.3.10, and 5.2.3.11).

10.0 Project Evaluation and Optional KDPs

Describe the reviews that the R&T Portfolio Project will conduct, including Formulation Reviews, peer reviews, and other Independent Assessments, in response to MDAA, MSOD, or governing PMC requirements. Include the timeline for these reviews. Provide the technical, scientific, schedule, cost, and other criteria, which will be utilized in the reviews.

Identify any optional KDPs (KDP B, D, and E) required by the DA or determine that these optional KDPs are not needed. This should include determination of gate products required prior to the optional KDPs.

11.0 Relationships to Other Projects and Organizations

a. Internal: Describe the way the R&T Portfolio Project will relate to other institutions within NASA (e.g., crosscutting technology efforts, space communications, and launch services). List the internal agreements necessary for the R&T Portfolio Project's success and projected dates of approval. This list may be maintained as a separate document that is referenced by the R&T Portfolio Project Plan and may be updated separate from the R&T Portfolio Project Plan (i.e., updates do not require formal revision to the R&T Portfolio Project Plan). This list should include those agreements that are concluded with the authority of the Program Lead or Research Director, and reference those agreements concluded with the authority of the MD or MSO (if applicable).

b. External: Describe the way the R&T Portfolio Project will relate to entities outside of NASA (e.g., interagency or international). List the external agreements necessary for R&T Portfolio Project success and projected dates of approval. This list may be maintained as a separate document that is referenced by the R&T Portfolio Project Plan and may be updated separate from the R&T Portfolio Project Plan (i.e., updates do not require formal revision to the R&T Portfolio Project Plan). This list should include those agreements that are concluded with the authority of the Program Lead or Research Director and reference those agreements concluded with the authority of the NASA AA, MDAA, and/or MSOD (if applicable).

12.0 Security Plan

Document the R&T Portfolio Project's approach to implementing IT security requirements in accordance with NPR 2810.1, Security of Information Technology.

13.0 Waivers

Identify known waivers that the R&T Portfolio Project will obtain against NASA policies, directives, or other

applicable external requirements. Provide rationale and risk impact for the waivers, include characteristics such as scope, complexity, visibility, cost, and safety.

14.0 Change Log

Document changes to the R&T Portfolio Project Plan

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